

Sculpture: Objekt II (Object II)

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SAMPLE LOCALIZATION



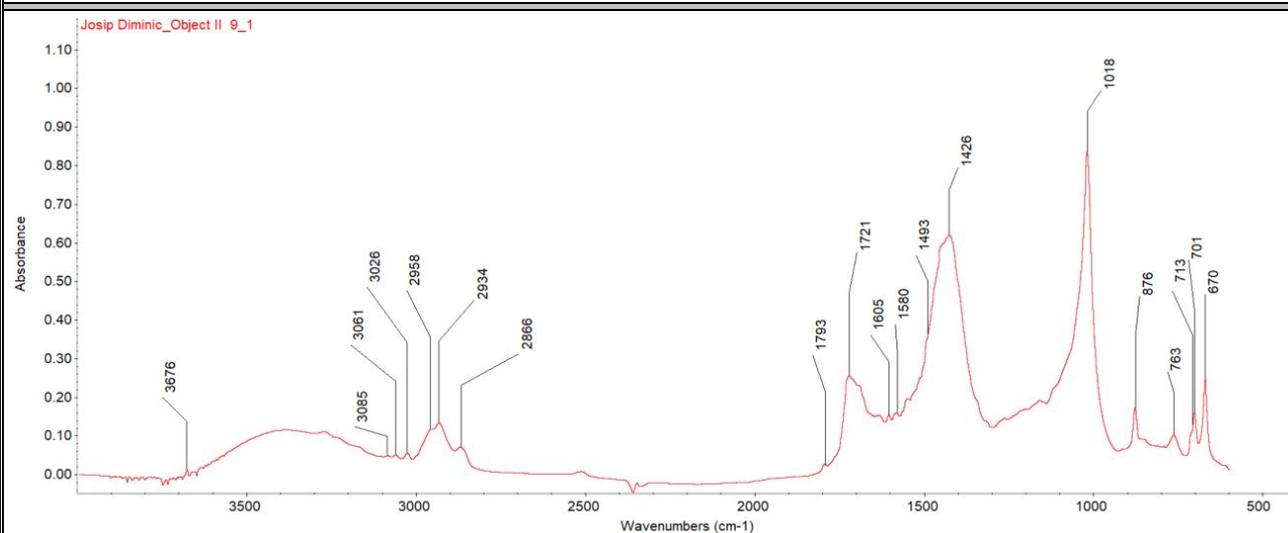
SAMPLES

N°	DESCRIPTION
01	9_1 : Degradation patina

NOTE: Sculpture was conserved-restored in 2014. Paint system used is EPOXY+PUR (Helipox 10-10 + Heliopur 31-0050 by Chromos boje i lakovi, Croatia). For smoothing out the surface a polyester two component putty was used (Presto Fullspachtel). After a while, a white semitransparent layer was observed on the places where the putty was applied.

Samples n°: 2_3	
SAMPLING DETAILS	
GENERAL	DETAIL
	
DESCRIPTION OF THE SAMPLING AREA	
Whitening degradation patina on red paint in correspondence of the polyester two component putty applied to polish the surfaces.	
SAMPLING OBJECTIVE	
FTIR	
NOTES	
Study of the composition of the whitening layer as product of paint degradation or maybe something from the polyester two component putty.	

FOURIER TRANSFORM INFRARED SPECTROSCOPY



INTERPRETATION

The FTIR spectrum exhibits strong absorption bands of calcite and talc that partially overlap the organic component, preventing its clear identification. Most peaks attributable to the organic component are compatible with the presence of a polyester resin (e.g., the polyester putty) or a polyester-polyurethane resin (e.g. the paint).

The spectrum alone does not allow the identification of specific degradation products of the paint or of the underlying putty.

Assignments of the characteristic absorption bands are reported in the following table.

<i>Bands (cm⁻¹)</i>	<i>Assignments</i>
3676	ν OH (talk)
2511-1793	overtone calcite
3085-3061-3026	ν (CH, aromatic)
2958-2934-2866	ν (CH)
1721	ν (C=O, ester)
1695	ν (C=O, urethane)
1605-1580-1493	ν (C=C, aromatic)
1549	CHN absorption (urethane)
1428	ν CO ₃ ²⁻ (calcite)
1018	ν Si-O (talc)
876	out-of-plane deform. O-C-O (CO ₃ ²⁻)
713	δ O-C-O (CO ₃ ²⁻)
763-701-670	out-of-plane =C-H deform

ACQUISITION CHARACTERISTICS

FTIR spectra were collected using a diamond anvil cell with a Bruker Vertex 70 spectrophotometer coupled with a Bruker Hyperion 3000 IR microscope equipped with an MCT detector (Infrared Associates Inc.). 64 scans were collected at 4 cm^{-1} resolution in the $4000 - 600\text{ cm}^{-1}$ spectral range.

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